



**The lights of an F-15 Eagle from Kadena Air Base, Japan,** blend with the neon lights of Las Vegas, Nev., in the background. In the first Joint Red Flag, the Air Force combined 13 different training venues into one at Nellis Air Force Base, incorporating exercises from the Army, Navy and Marines. Nearly 10,000 people participated in the inaugural exercise that set the stage for future joint ventures.

# Red Flag Becomes Super-sized

Exercise emphasizes joint aspect of training for 10,000 participants

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**T**he hum of activity never stopped. Like a casino, there were no windows, which really didn't matter. In nearby Las Vegas — a city that never sleeps — all-night activity was the norm.

The glow from monitors cast everyone in odd

colors as they milled about. Some viewed the big screens with the same intensity gamblers give to a flipped card, while others ignored the screens completely.

Like many of the casinos that recently seemed to appear out of nowhere, the building was just two years old. However, the video screens had no arms like slot machines. The big screens weren't showing a boxing match or a horse race. Instead, they depicted various angles of a battle area.

It wasn't a casino. It was the combined air and space operations center at Joint Red Flag — the Air Force's largest joint exercise to date, held at

Nellis Air Force base in March and April. Thirteen venues combined into one massive exercise spanning the entire United States.

With nearly 10,000 participants, the exercise was more than just Red Flag on steroids. It's the wave of the future. While some exercises can be described as two-dimensional, due to its complexity, Joint Red Flag can be considered four or five dimensional.

## **Unreal training**

The exercise went beyond reality. Officials linked live, virtual and constructed forces (see

"Training environments," Page 7) and created a computer-simulated battle space.

"A pilot in a cockpit simulator at Seymour Johnson Air Force Base, N.C., could look out the cockpit window and be flying next to a B-2 [bomber] from Langley Air Force Base, Va.," said Lt. Col. James Murray, 12th Air Force project manager stationed at Davis-Monthan Air Force Base, Ariz.

"That allows us to train people hundreds of miles apart. They can get this type of training without ever leaving home or flying an aircraft," he said.

Colonel Murray, who helped design the exercise, said the virtual aspect of the exercise was easy to integrate because it was simulator to simulator. The difficult part was lashing together live with virtual and construct, and vice versa. For instance, an E-8C Joint STARS aircrew might suddenly spot an aircraft on its radar screen, although in reality there were no aircraft flying there. This allowed planners and operators situation awareness of the total battle.

“Our Airmen developed procedures and techniques that’ll have far-reaching effects on combat operations and future joint exercises of this magnitude and complexity,” Colonel Murray said.

### Practicing with Patriots

Training with the Army allows the military to stack the deck against its foes. Many recall the Army’s Patriot missiles destroying Scud missiles over the heads of Airmen during Desert Storm. That was in the early 1990s. This was the first time in a Red Flag exercise that the two services had the chance to train together.

“The learning curve in working with the Patriot missiles was steep,” Colonel Murray admitted.

However, officials designed Joint Red Flag as a learning experience. Exercise participants introduced lessons learned from Operation Iraqi Freedom.

“If we don’t integrate — talk over issues — it becomes a possible item for fratricide,” Colonel Murray pointed out.

“It was easy to work with the Air Force and Navy and hash things out during this exercise,” said Chief Warrant Officer Peter Hill, a Patriot missile battery liaison. “We worked through some issues, and we were more than happy with the way things went.”

For other Airmen, like the E-3B Sentry AWACS aircrew from Tinker Air Force Base, Okla., working with the Army was akin to winning a jackpot. It was a big deal.

“It was the first time we’ve ever been face to face with training in the air defense artillery, with deconflicting friendly fighters,” said Maj. Curtis Andersen, the exercise senior director.

“Deconflicting” is a term used for avoiding friendly fire incidents. For instance, if the Navy or the Army uses artillery on a target, the Air Force wants to ensure fighter jets are far from that area.

“Our crew worked to understand the limits of integration and interoperability of the Army Patriot and Avenger systems,” the major said. “This way, we’ll be better prepared to fight a joint war.”

By practicing with the Navy, the Air Force learned more about the cycle time it takes the Navy to lob missiles onto a land target. Equally, the Navy learned more about the Air Force — like the terminology. Air Force pilots “step” to their planes while Navy pilots “walk” to theirs.

“Even the crusty old guys know joint training is the way it’s going to happen,” said Cmdr. Victor Philleo,

Area Air Defense Command, Norfolk, Va. “We integrate and learn.”

### Getting it done

It wasn’t just the sister services that learned a thing or two. Second Lt. Lisa Vandergraaf from McGuire Air Force Base, N.J., worked as an intelligence officer for the air mobility division. Joint Red Flag was her second exercise during the 19 months she’s been in the Air Force. She provided intelligence to aircrews and briefed them on places to avoid, threat levels and force protection so they could plan sorties.

Sitting in the middle of the mayhem that was the combined air and space operations center, the lieutenant not only enjoyed her job, she felt its importance.

“I’m focusing on a real important part of the war



**The Nellis Air Force Base flightline was a mish-mash of aircraft and people.** Master Sgt. Robert Beasley, 181st Fighter Wing at Terra Haute, Ind., preps bombs to load on an F-16 Fighting Falcon. To avoid getting hit, Air Force fighter pilots had to learn to stay away from battle areas that were being bombed by the Navy and Army.

## Joint Red Flag Operating Locations



**Capt. James Matthey (left) and Tech. Sgt. Margie Fields** review technical mapping scenarios in the combined air and space operations center. Both from the 710th Combat Operations Squadron at Langley Air Force Base, Va., the two helped round out the more than 750 staff members who made up the CAOC, which ran 24 hours a day.

— getting the mission accomplished,” she said. “To be able to sit on the operations floor and see the mission begin and end is very rewarding.”

Joint Red Flag didn't change everyone's view of the world. For aircraft maintainers, the exercise felt like just a larger Red Flag. The only difference they noticed were the British planes and Airmen who shared the runway with them.

However, it was different.

It was the Air Force's first big step toward realizing a secretary of defense goal for transforming the way the military conducts joint training.

“We're good at training by ourselves,” said Lt. Col. Joseph Turnage, Headquarters Air Combat Command, Langley Air Force Base, Va. “This training showed so much promise all the organizations

came together voluntarily. They understood that joint training is a transformation. We were all happy to be a part of this first inauguration of joint training.”

It was the Air Force's first stab at training with its sister services in a major joint exercise. The exercise foundation has been poured and is set for future exercises. ♀

**First Lt. Joan Hollein**, fire control platoon leader with the Charlie Battalion 2-43 Air Defense Artillery Battalion, surveys a Patriot launcher coverage during Joint Red Flag. Located about 130 miles away from Nellis, the battalion from Fort Bliss, Texas, practiced with 16 Patriot batteries and 4,814 Soldiers.



## 13 exercises in one

Joint Red Flag combines multiple venues:

■ **Red Flag** — A realistic combat-training exercise involving the armed forces of the United States and its allies. It's conducted two times a year on the bombing and gunnery ranges at Nellis.

■ **Virtual Flag** — Another joint exercise that uses 40 simulators scattered across the United States. Multiple bases can participate without having to pay the costs associated with deployments.

■ **Black Demon** — A computer network-defense exercise at Lackland Air Force Base, Texas, to strengthen the Air Force's ability to defend its network against a wide range of attacks.

■ **12th Air Force Combined Force Air**

**Component commander** — Exercises the ability to provide guidance for a coalition air campaign.

■ **Combined Arms Exercise** — The Marine Corps' most advanced live-fire, unit-level combined arms training program for ground and air fire support. It involves several hundred Marines playing a war game against a fictitious enemy.

■ **National Training Center** — The center allows the 172nd Infantry Battalion to practice its mission at Fort Irwin, Calif.

■ **Air Warrior** — Held at the Army's National Training Center at Fort Irwin, the exercise integrates air power into ground warfare. It's the only battlefield where Air Force aircraft engage armored forces in unscripted free-play scenarios.

■ **Battle Group In-port Exercise** — Allows the

Navy to practice missile defense for the Army, close air support and strikes, defense counter air, land attack missile launches and theater ballistic missile coverage.

■ **Roving Sands** — Claims to be the world's largest joint theater air and missile defense exercise for the U.S. Army Forces Command and the U.S. Joint Forces Command. Because the aircraft force ratio heavily favors the opposition force, friendly forces must develop a superior air defense system.

■ **Combined Forces Maritime Component Commander** — With duties similar to the 12th Air Force combined forces air component commander, the Navy CFMCC's ability to provide guidance for a coalition air campaign is tested.

■ **Joint System Training Exercise** — Tests all

## Training environments

### Live

Real people in real locations using real equipment.



### Virtual Simulation

Real people in simulators



### Constructive Simulation

Simulated entities in a simulated environment



four services' systems that support the command and control of operations, from strategic command to tactical battle management.

■ **4ID** — Tests the Army's battle command system.

■ **Air Force Special Operations Command** — Flew MH-53 Pave Low helicopters and AC-130 gunships over Florida.

### ■ Joint Red Flag players

Air Force — 144 aircraft, 3,129 Airmen

Army — 16 Patriot batteries, 4,814 Soldiers

Navy — 31 aircraft, 800 Sailors

United Kingdom — 19 aircraft, 351 Airmen